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TITLE : SOLID ELECTROLYTE AND LITHIUM BATTERY USING THE SAME

ABSTRACT : PURPOSE: To obtain a solid electrolyte of high ion conductivity and a lithium battery using it which excels in high-rate discharge characteristic by using a solid electrolyte including a granulelike electrolyte of a large Li content.

CONSTITUTION: A lithium ion conducting solid electrolyte is constituted by sintering a granule-like electrolyte (1) represented by the general formula (1) $Li_{1+(4-n)x}M_xTi_{2-x}(PO_4)_3$ (where M is univalent or bivalent cation, when M is univalent cation, n=1, when M is bivalent cation, n=2, x is 0.1 to 0.5). For concrete example of M in the formula, Na^+, K^+, Rb^+, Cs^+, Cu^+ are examplified for univalent cation, and Mg^{2+}, Fe^{2+}, Be^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Ra^{2+}, Mn^{2+}, Co^{2+}, Cu^{2+}, Ni^{2+}, Zn^{2+}, Cd^{2+} are examplified for bivalent cation.